

Louisville Metro Air Pollution Control District
850 Barret Ave., Louisville, Kentucky 40204
23 March 2013

Construction Statement of Basis

Company: University of Louisville, Belknap Campus

Plant Location: 2301 S Brook St., Louisville, Kentucky 40208

Date Application Received: 20 February 2013 **Application Number:** 36963

Date of Draft Permit: 23 March 2013

District Engineer: Yiqiu Lin

Permit No: 37071-13-C

Plant ID: 0852

SIC Code: 8221

NAICS: 611310

AFS: 00852

Introduction:

This permit will be issued pursuant to District Regulation 2.03, Permit Requirements - Non-Title V Construction and Operating Permits and Demolition/Renovation Permits. Its purpose is to provide methods of determining continued compliance with all applicable requirements.

Jefferson County is classified as an attainment area for lead (Pb), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), 1 hr and 8 hr ozone (O₃), and particulate matter less than 10 microns (PM₁₀); and is a non-attainment area for particulate matter less than 2.5 microns (PM_{2.5}).

Application Type/Permit Activity:

- ☐ Initial Issuance
- ☐ Permit Revision
 - ☐ Administrative
 - ☐ Minor
 - ☐ Significant
- ☐ Permit Renewal
- ☒ Construction

Compliance Summary:

- | | |
|--|---|
| <input type="checkbox"/> Compliance certification signed | <input type="checkbox"/> Compliance schedule included |
| <input type="checkbox"/> Source is out of compliance | <input checked="" type="checkbox"/> Source is operating in compliance |

I. Source Information

1. **Product/Process Description:** The source is a university that primarily engaged in furnishing academic courses and granting degrees at baccalaureate or graduate levels.
2. **Project Description:** University of Louisville is installing a Theatre Arts Spray Booth for aerosol can spray paint or RIT dye application to stage production clothing, shoes, and jewelry.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
4. **Emission Unit Summary:**

Construction No.	Equipment Description
37071-13-C	One (1) Theatre Arts Spray Booth for aerosol can spray paint or RIT dye application to stage production clothing, shoes, and jewelry, ventilating rate 8000 cfm, equipped with a 0.625 MMBtu/hr direct natural gas heater and a fiber filter (C11 – S8). This unit will be designated as U11 – E40.

5. Permit Revisions

Revision No.	Date of Issuance	Public Notice Date	Type	Attachment No./Page No.	Description
Initial	x/xx/2013	3/23/2013	Initial	Entire Permit	Initial Permit Issuance

6. **Fugitive Sources:** There are no fugitive emissions for this project.

7. Plantwide Emission Summary:

Pollutant	Actual Emissions (tpy) 2011 Data	Major Source Status (based on PTE)
CO	11.8	Yes
NO _x	8.47	Yes
SO ₂	0.12	Yes
PM ₁₀	3.32	Yes
VOC	1.04	No

Pollutant	Actual Emissions (tpy) 2011 Data	Major Source Status (based on PTE)
Total HAPs	0.27	Yes
Single HAP > 1 tpy		
Hydrochloric Acid	0	Yes

8. Applicable Requirements:

☐ PSD ☐ NSPS ☒ SIP ☐ MACT
☐ NSR ☐ NESHAPS ☒ District-Origin ☐ Other

9. MACT Requirements:

N/A

10. Referenced Federal Regulations in Permit:

N/A

II. Regulatory Analysis

1. Acid Rain Requirements: The source is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements: Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r): The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.

4. Basis of Regulation Applicability**a. Applicable Regulations:**

Regulation	Title	Type
2.03	Permit Requirements – Non-Title V Construction and Operating Permits and	SIP

Regulation	Title	Type
	Demolition/Renovation Permits	
5.00	Definitions	Local
5.01	General Provisions	Local
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	Local
5.14	Hazardous Air Pollutants and Source Categories	Local
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	Local
5.21	Environmental Acceptability for Toxic Air Contaminants	Local
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	Local
5.23	Categories of Toxic Air Contaminants	Local
7.08	Standards of Performance for New Process Operations	SIP
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	SIP

b. **Permit 37071-13-C:**i. **Equipment:**

Emission Point	Description	Applicable Regulation	Basis for Applicability
U11- E40	One (1) Theatre Arts Spray Booth for aerosol can spray paint or RIT dye application, equipped with a 0.625 MMBtu/hr direct natural gas heater and a fiber filter (C11 – S8).	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08, 7.25	<p>Regulations from Chapter 5 establish the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values.</p> <p>Regulation 7.08 establishes requirements for new processes that are subject to PM standards and were installed after September 1, 1976.</p> <p>New VOC emission facilities for which construction or modification is commenced after June 13, 1979 are subject to Regulation 7.25.</p>

ii. Standards/Operating Limits**1) VOC**

Regulation 7.25, section 3 establishes VOC standards for all affected facilities at a source. The source is required to utilize best available control technology (BACT) if total VOC emissions from all affected facilities exceed 5 tons per year.

2) Opacity

Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%.

3) PM

In accordance with Regulation 7.08, Table 1, PM standards for the paint booth is 2.34 lb/hr.

4) TAC

Regulation 5.21, section 2.2 establishes Environmental Acceptability Goals for TACs and Regulation 5.20 provides methodology for determining benchmark ambient concentration of TAC. In accordance with Regulation 5.20 and 5.21, the source shall not allow any TAC emissions to exceed environmentally acceptable levels.

iii. Monitoring and Recordkeeping**1) VOC/Opacity/PM**

(a) Regulation 7.08 and 7.25 do not require any specific monitoring and record keeping requirements for these pollutants. However, Regulation 2.03, section 5.1 establishes monitoring requirements to assure ongoing compliance with the terms and conditions of the permit.

(b) A one-time PM compliance demonstration has been performed for this equipment and the lb/hr standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, and reporting requirements with respect to PM lb/hr emission limits.

2) **TAC**

This equipment is subject to STAR Program. It was demonstrated that the TAC emissions from the paint booth are de minimis uncontrolled and TAC emissions from the natural gas heater are de minimis per definition (Regulation 5.21, section 2.7). Therefore the facility is in compliance with STAR Program.

iv. **Reporting**1) **VOC/Opacity/PM**

- (a) Regulation 7.08 and 7.25 do not require any specific reporting requirements for these pollutants. However, Regulation 2.03, section 5.1 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit.
- (b) A one-time PM compliance demonstration has been performed for this equipment and the lb/hr standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, and reporting requirements with respect to PM lb/hr emission limits.

III. Other Requirements

- 1. **Temporary Sources:** The source did not request to operate any temporary facilities.
- 2. **Short Term Activities:** The source did not report any short term activities.
- 3. **Emissions Trading:** N/A
- 4. **Operational Flexibility:** The source did not request any operational flexibility for this construction project.
- 5. **Compliance History:**

Date	Regulation Violated	Result
10/14/1980	KRS 77.155 (Opacity) Reg. 7.06, Section (4)(b) for heat exchangers Reg. 1.07, Section (2) Start-up	Settled

Date	Regulation Violated	Result
8/15/1990	Reg. 5.13, Section 4(a)	Settled
10/4/1991	Reg. 2.03, Section 1(b)	Settled
12/22/2008	Reg. 2.16, Section 5	Settled
2/17/2010	Reg. 5.04, Section 3	Board Order 11-01

6. **Calculation Methodology:** Mass balance method shall be used for calculating emissions from paints and other materials. For the natural gas-fired heater, emissions can be calculated using manufacturer's guaranteed emission factors, or AP-42 emission factors if manufacturer's guaranteed emission factors are not available for the pollutants.
7. **Permit Fee:** The construction permit fees are based on allowable emissions of less than 5 tons per year of VOC in accordance with Regulation 2.08, section 2.5.
8. **Insignificant Activities:** There are no insignificant activities contained in this construction permit.